

Data Analysis on Unicorn Companies

PE084DS(11) - Certificate in Junior Python Data Analyst

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Introduction

In business, a unicorn is a **privately held** startup company valued at over **US\$1 billion**. The term was first popularised in 2013 by venture capitalist Aileen Lee, choosing the mythical animal to represent the statistical rarity of such successful ventures.

Objectives

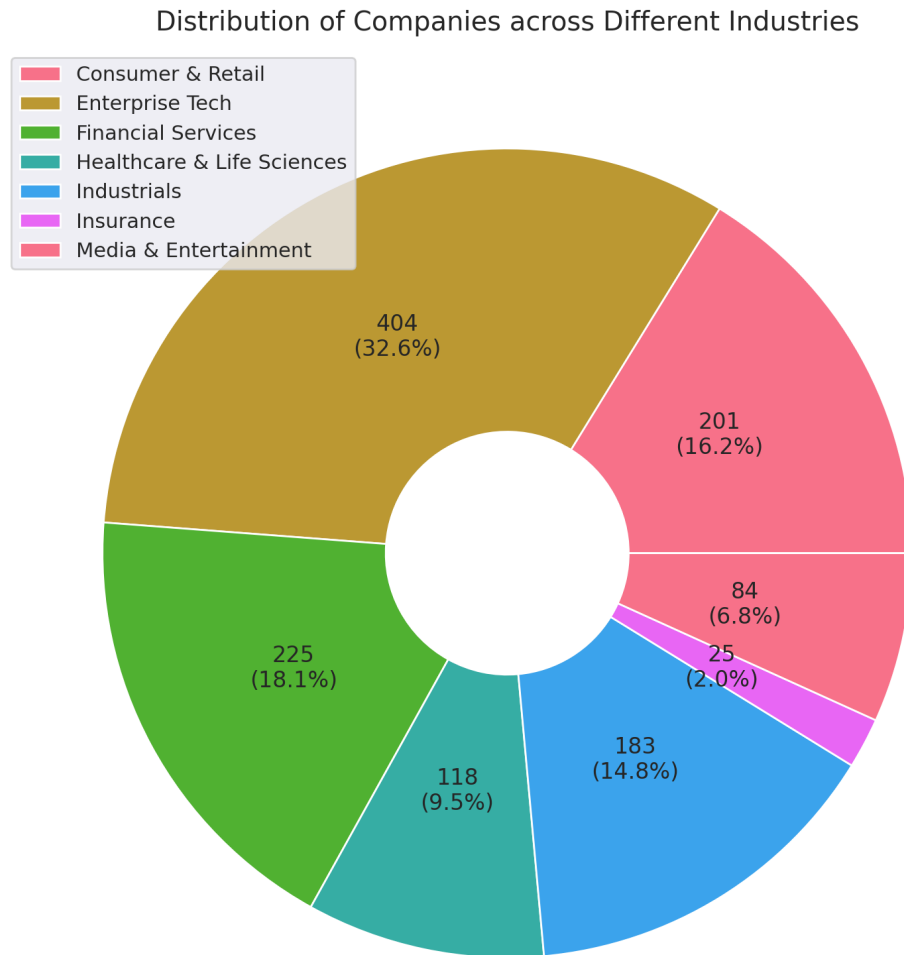
- **Data Exploration and Cleaning:** Import and preprocess the unicorn dataset, addressing missing values and ensuring data quality.
- **Visualization Development:** Create various graphs (bar plots, histograms, etc.) to illustrate unicorn distributions by industry, country, valuation trends, and funding patterns.
- **Insight Generation:** Identify key trends in industries, geographic hubs, and correlations between funding and valuation.
- **Presentation of Findings:** Produce professional visualizations for reports and presentations, making complex data accessible to diverse audiences.

Methodology

- **Data Acquisition:** Source dataset from Kaggle (company name, valuation, industry, etc.)
- **Data Processing:** Use pandas for cleaning (handle missing values, standardize formats)
- **Visualization:** Bar plots, histograms, box plots, scatter plots, line charts
- **Interpretation:** Highlight actionable insights

Industry-Based Analysis

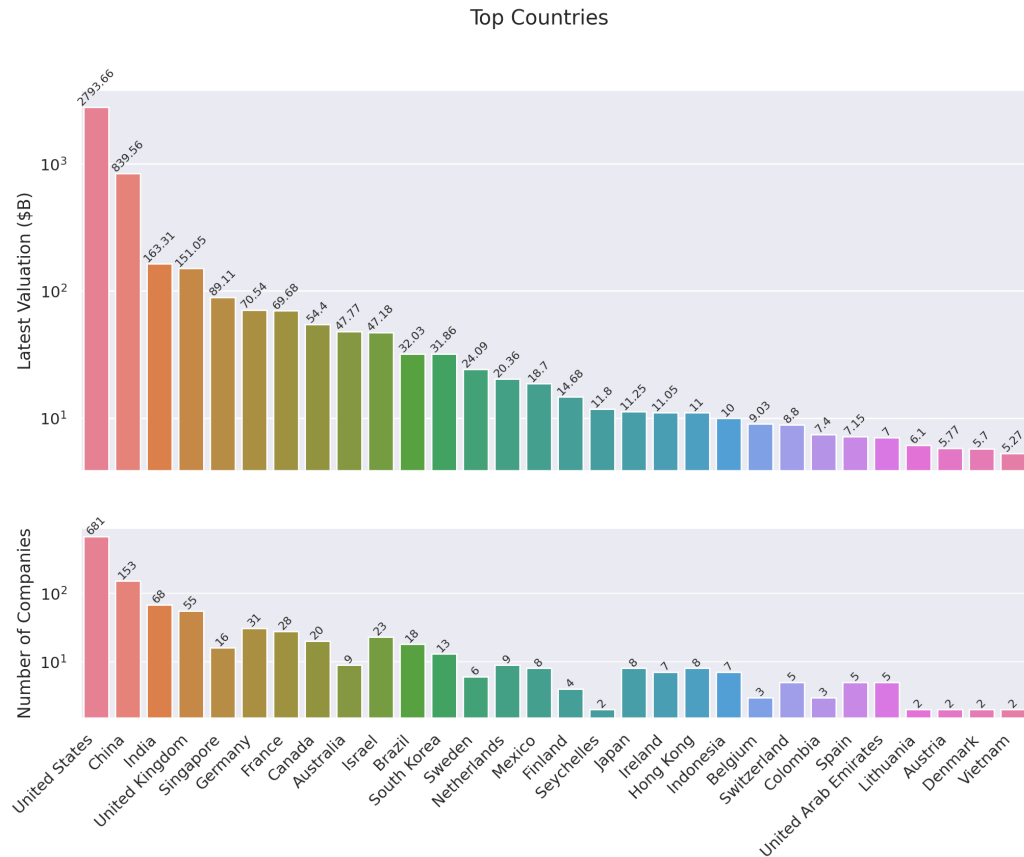
Distribution of Companies across Different Industries



- **Enterprise Tech** dominates the startup landscape, accounting for nearly one-third of all companies—underscoring its central role in modern innovation.
- **Financial Services** and **Industrials** are also robust, reflecting strong momentum in fintech and infrastructure modernization.
- **Consumer & Retail** and **Healthcare** remain important but are relatively smaller, possibly due to market maturity or regulatory complexity.
- **Media & Entertainment** and **Insurance** are niche sectors with fewer players, potentially signaling untapped opportunities or structural challenges.

Geographical Analysis

Top Countries by Valuation



- **United States**

- Leads in both valuation and company count.
- Suggests not just quantity but also high-value companies (e.g., unicorns, decacorns).

- **China**

- Strong second in both metrics.
- High average valuation per company, indicating a mature and well-funded ecosystem.

- **India**

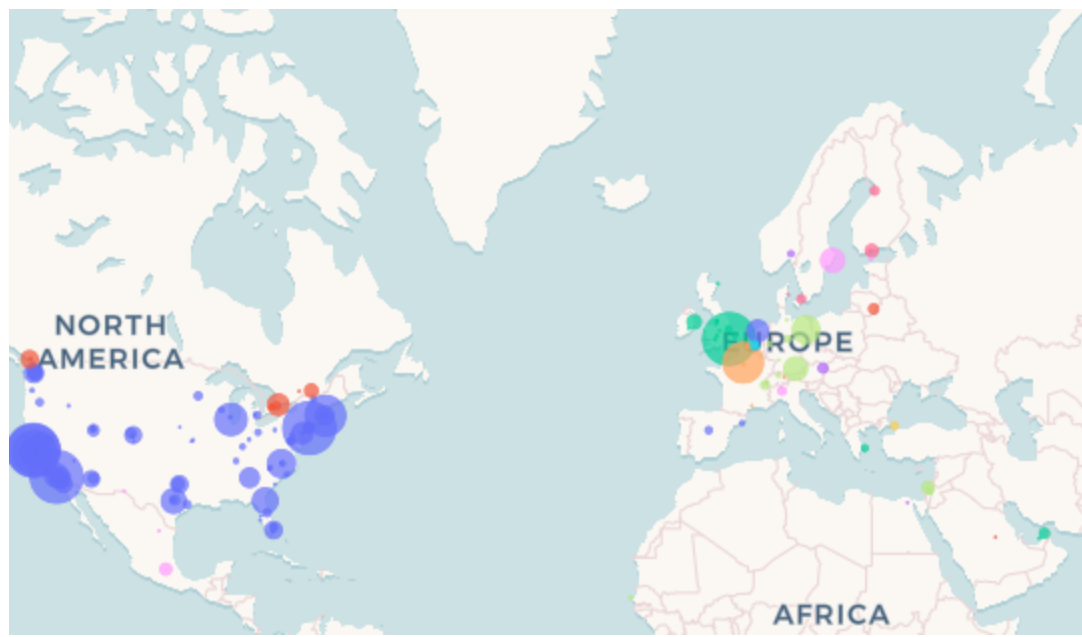
- Fewer companies than China but still ranks 3rd in valuation.
- Indicates rising influence in global tech and startup innovation.

- **Europe (UK, Germany, France)**

- Moderate number of companies with solid valuations.
- Suggests efficient capital deployment and possibly more late-stage companies.

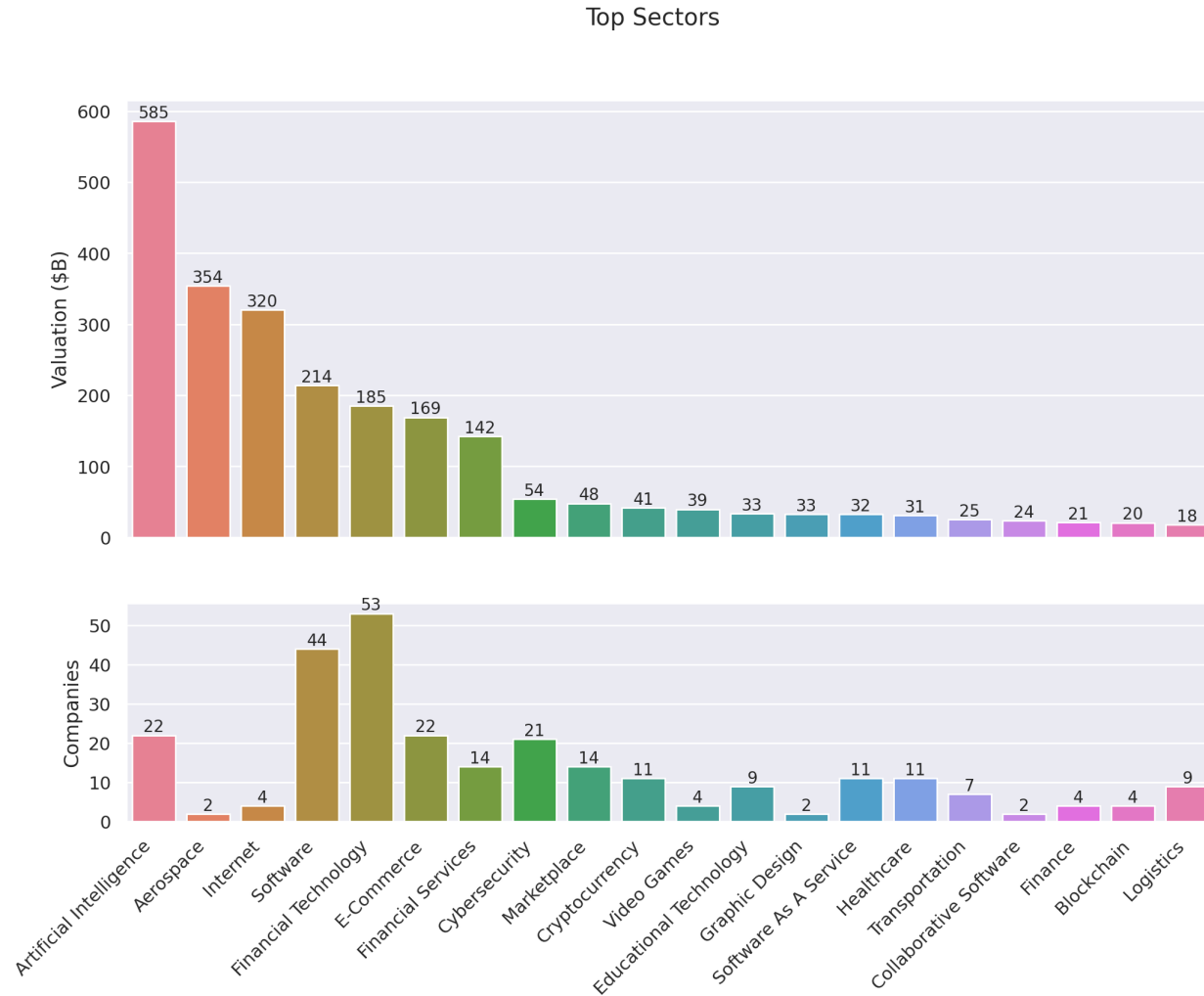
- **Others (e.g., Israel, Brazil, Singapore)**

- Smaller ecosystems but still producing high-value companies.
- May represent emerging innovation hubs.



Sector-Based Analysis

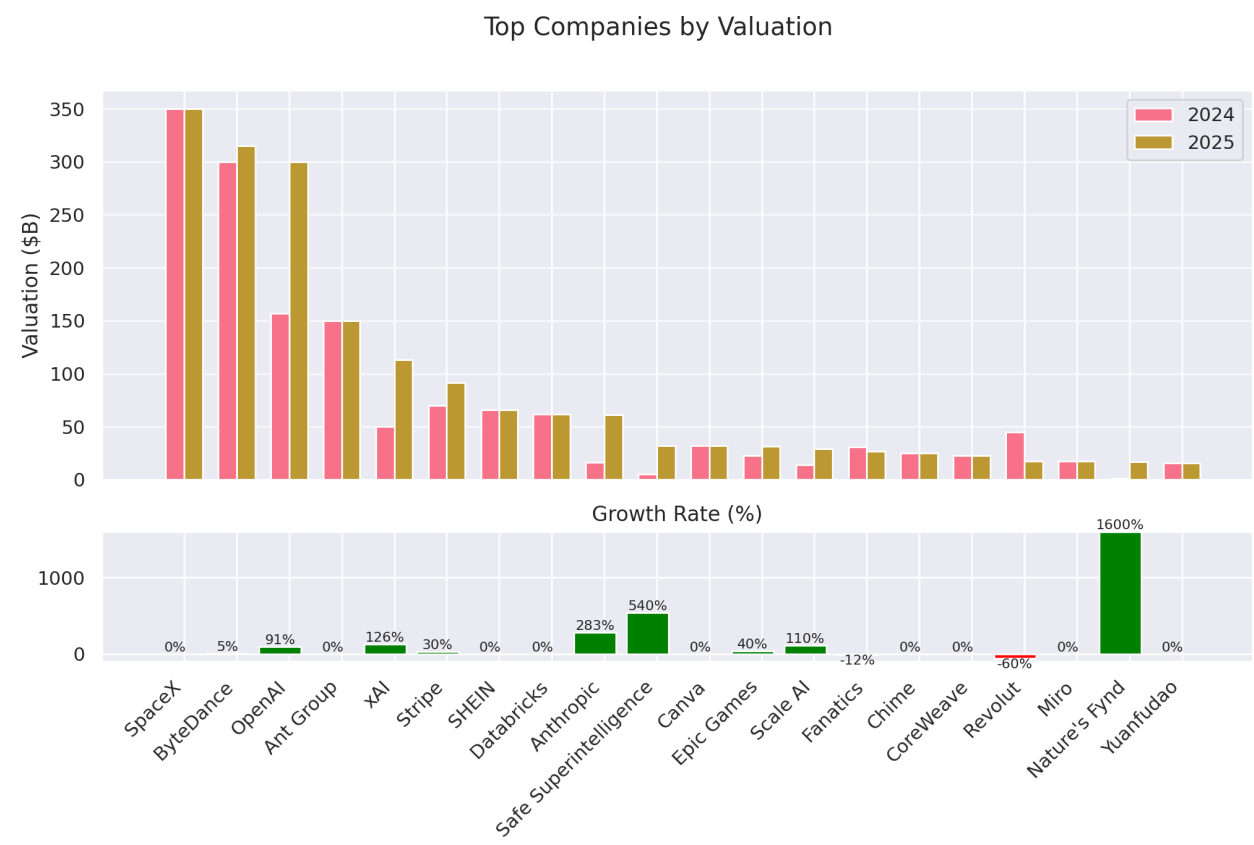
Top Sectors



- **Artificial Intelligence is the most valuable sector overall**, with a strong average valuation per company—showing both depth and scale.
- **Aerospace and Internet are outliers**: few companies, but massive valuations—likely driven by a handful of dominant players.
- **Fintech and Software** have the most companies but the lowest average valuation per firm, suggesting high competition and market saturation.
- **Health, Cybersecurity, and Biotech** strike a balance between company count and valuation, indicating steady investor confidence.

Company-based Analysis

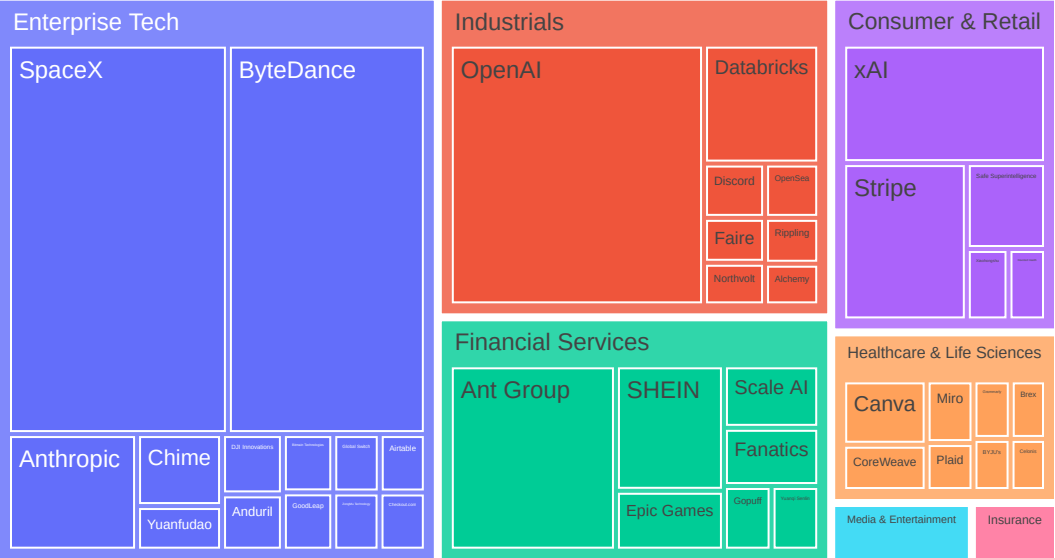
Top Companies by Valuation



- **AI companies dominate growth:** OpenAI, Anthropic, XAI, Scale AI, and Safe Superintelligence all post triple-digit growth.
- **Nature's Fynd** (a biotech/alt-protein company) is the outlier with a staggering 1600% growth—possibly due to a new funding round or breakthrough.
- **Fanatics** and **Miro** are the only companies with negative growth, suggesting valuation corrections or strategic setbacks.
- Several companies (e.g., SpaceX, SHEIN, Canva, Chime) show 0% growth, indicating stable but stagnant valuations.

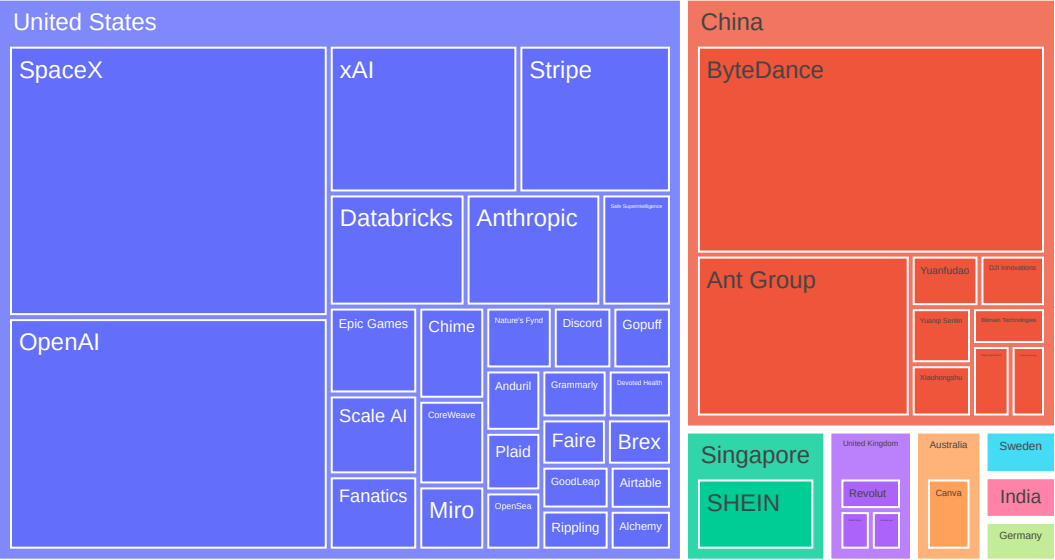
Top Companies accross Different Industries

All



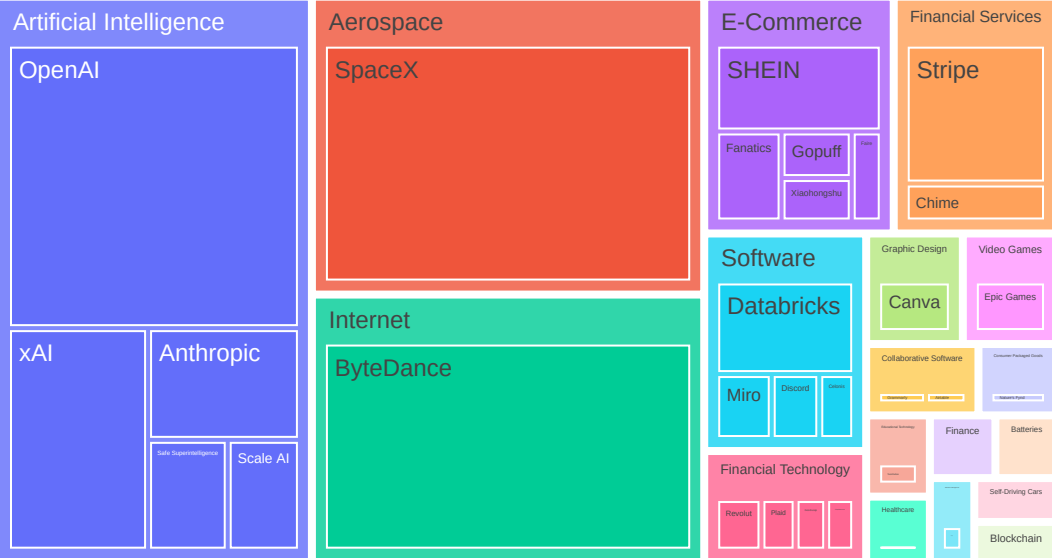
Top Companies accross Different Countries

All

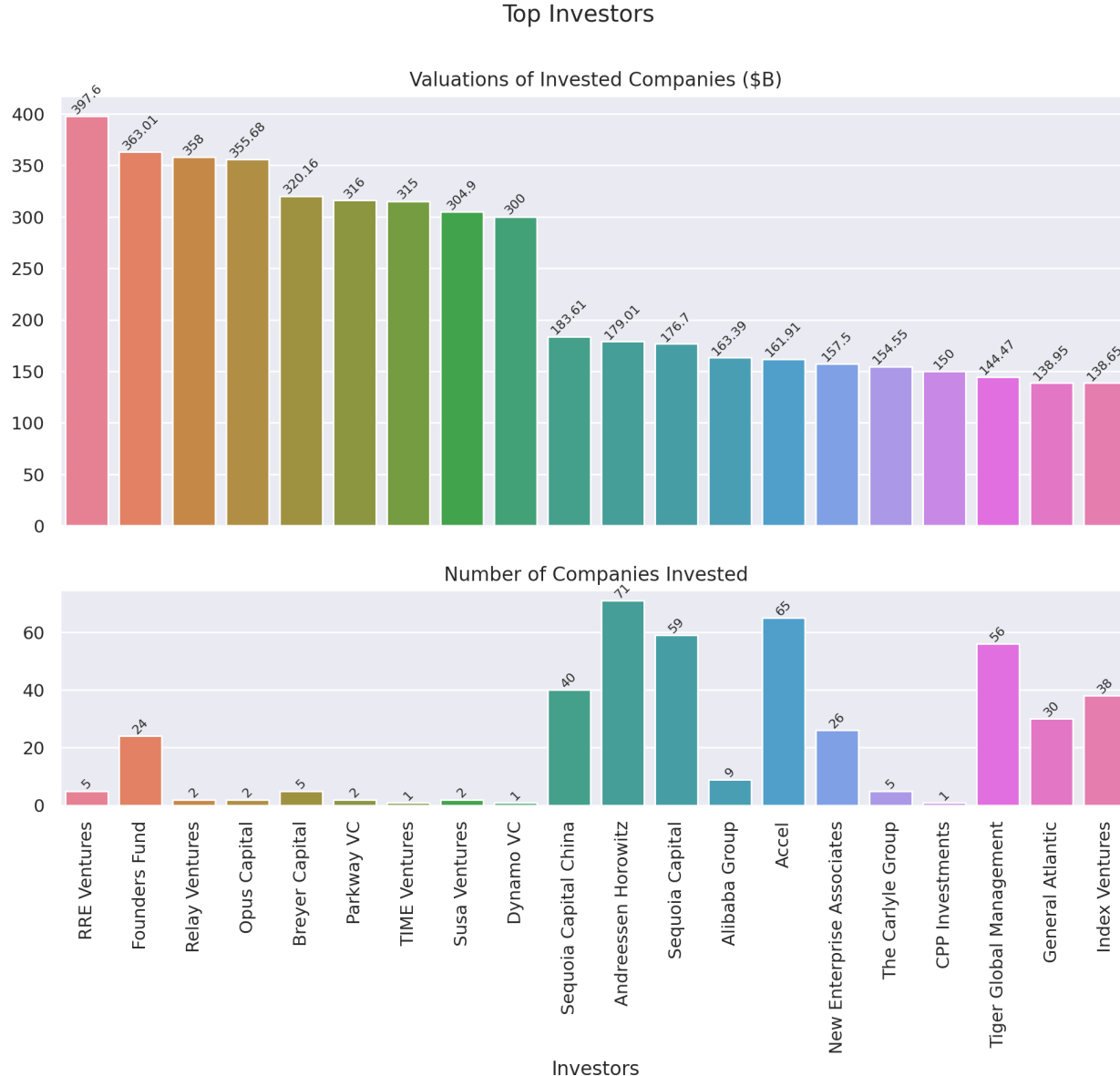


Top Companies accross Different Sectors

All



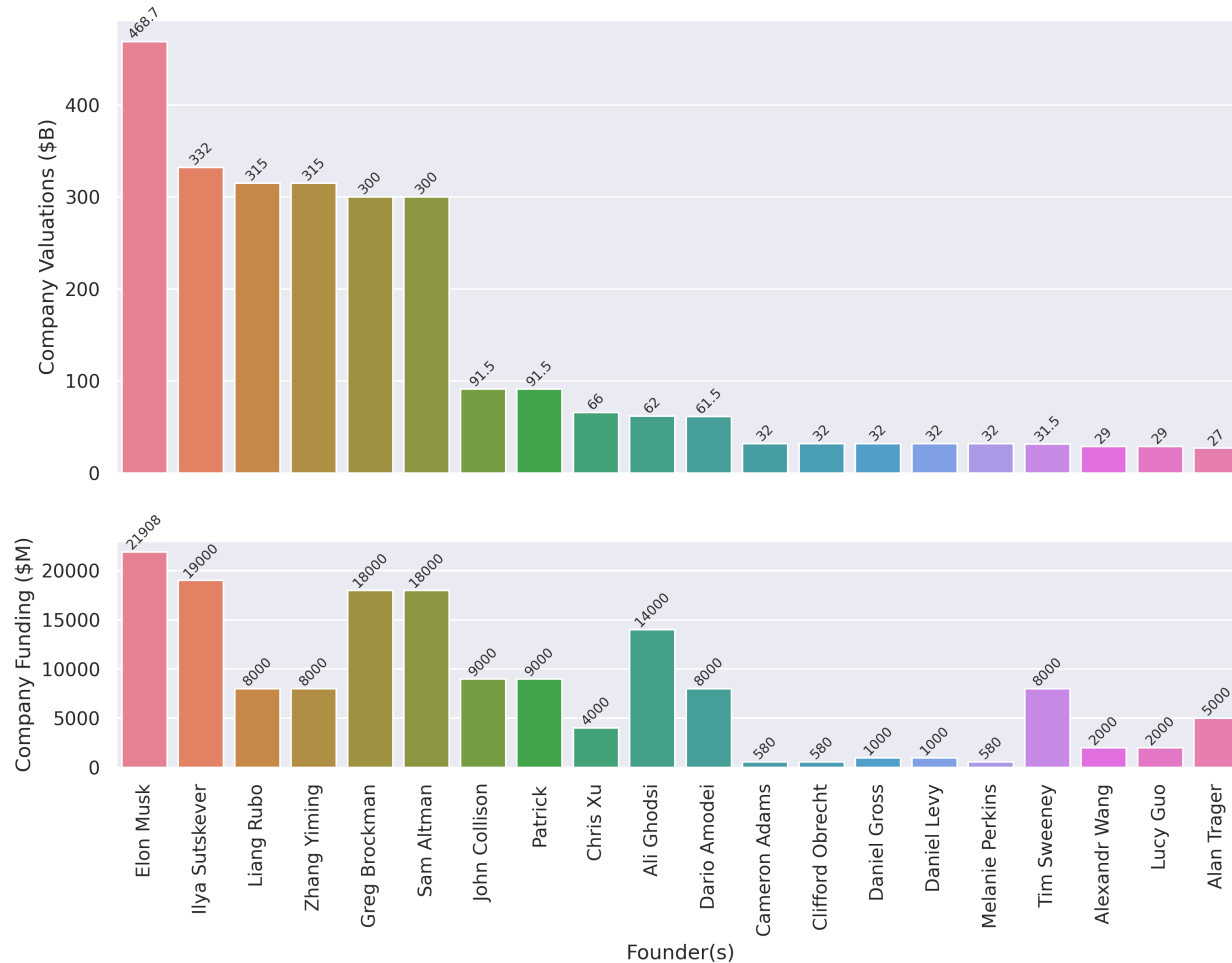
Top Investor Analysis



- **RRE Ventures** leads with \$397.6B in total valuation, despite investing in only 5 companies.
- **Founders Fund**, **Relay Ventures**, and **Opus Capital** follow closely, each with over \$350B in valuation.
- These top investors have relatively few investments, suggesting they backed very high-value unicorns (e.g., SpaceX, ByteDance, OpenAI).
- In contrast, **Andreessen Horowitz** and **Sequoia Capital** have lower total valuations (\$179B and \$176.7B respectively) but are known for broad portfolios.

Top Founder Analysis

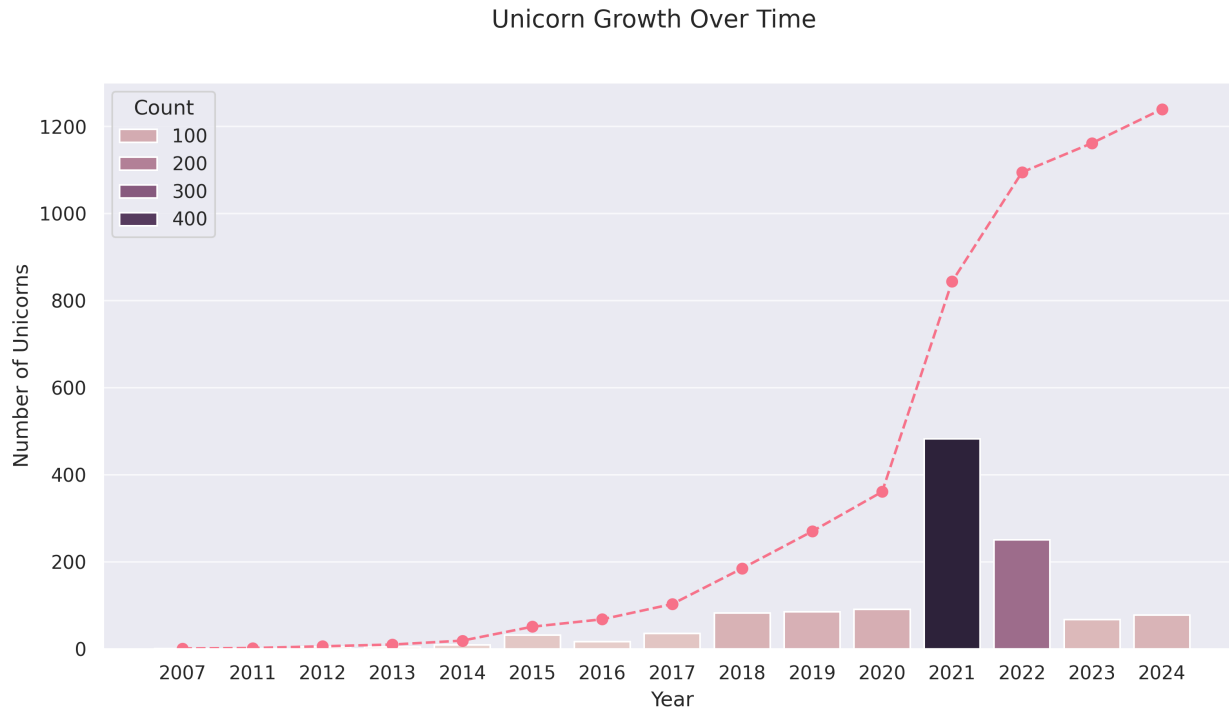
Top Founders by Company Valuations



- **Recent Founders, Massive Valuations:** Companies founded between 2010–2016 dominate valuations over \$10B, particularly in tech and finance.
- **Outliers Like SpaceX & ByteDance:** Founded earlier, these companies have high valuations (\$300B–\$350B), indicating sustained growth and funding.
- **Quick Climbers:** Unicorns founded since 2020, like Anthropic and xAI, are rapidly achieving multi-billion dollar valuations, reflecting investor interest in emerging AI tech.
- **Clustering:** Many unicorns with valuations of \$10B–\$30B were founded between 2012–2018, coinciding with a surge in VC funding in fintech, SaaS, and retail tech.

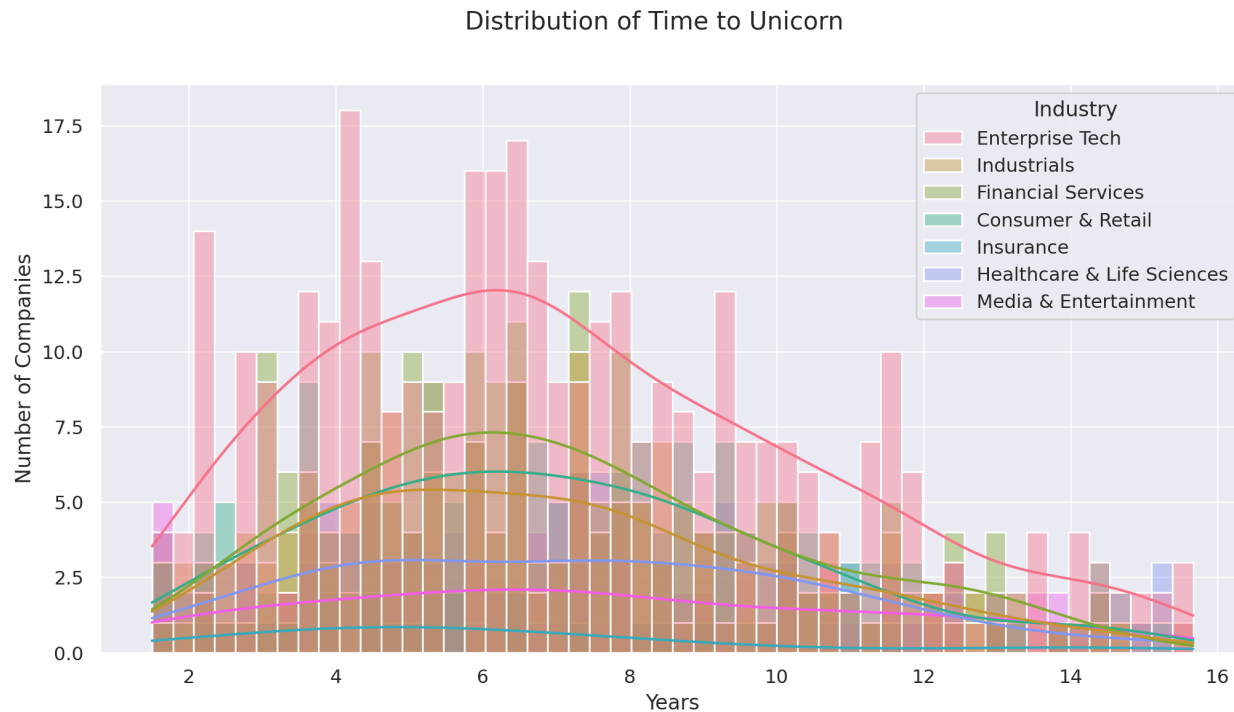
Time-Based Analysis

Unicorn Growth Over Time



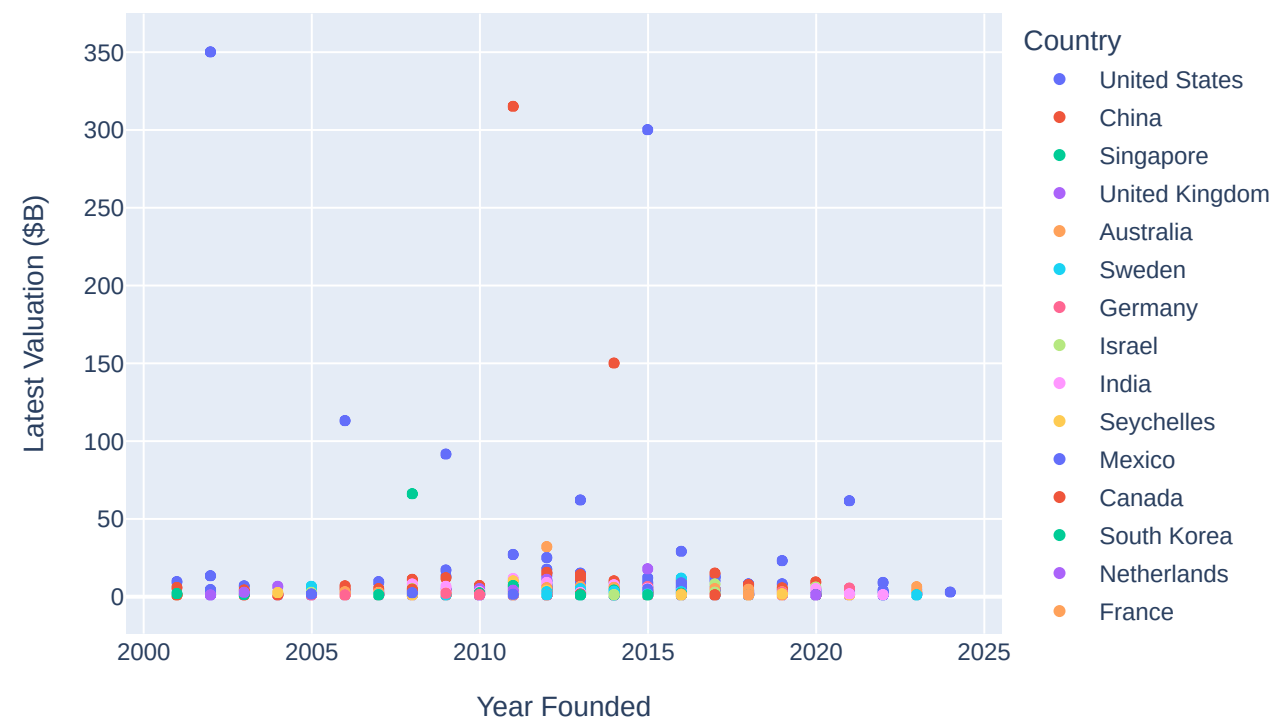
- **2021 Boom Year:** Fueled by pandemic-driven digitization, remote work tech, fintech surges, and unprecedented Venture Capital (VC) liquidity.
- **2022–2023 Dip:** Global macroeconomic tightening, interest rate hikes, and VC pullback likely dampened unicorn formation.
- **Resilience:** Despite the slowdown, the ecosystem is still producing unicorns annually and the cumulative count is robust.
- **Shift in Investment Strategy:** Post-2021, investors are favoring **quality over quantity**, leading to fewer but more strategically backed startups.

Time to Unicorn

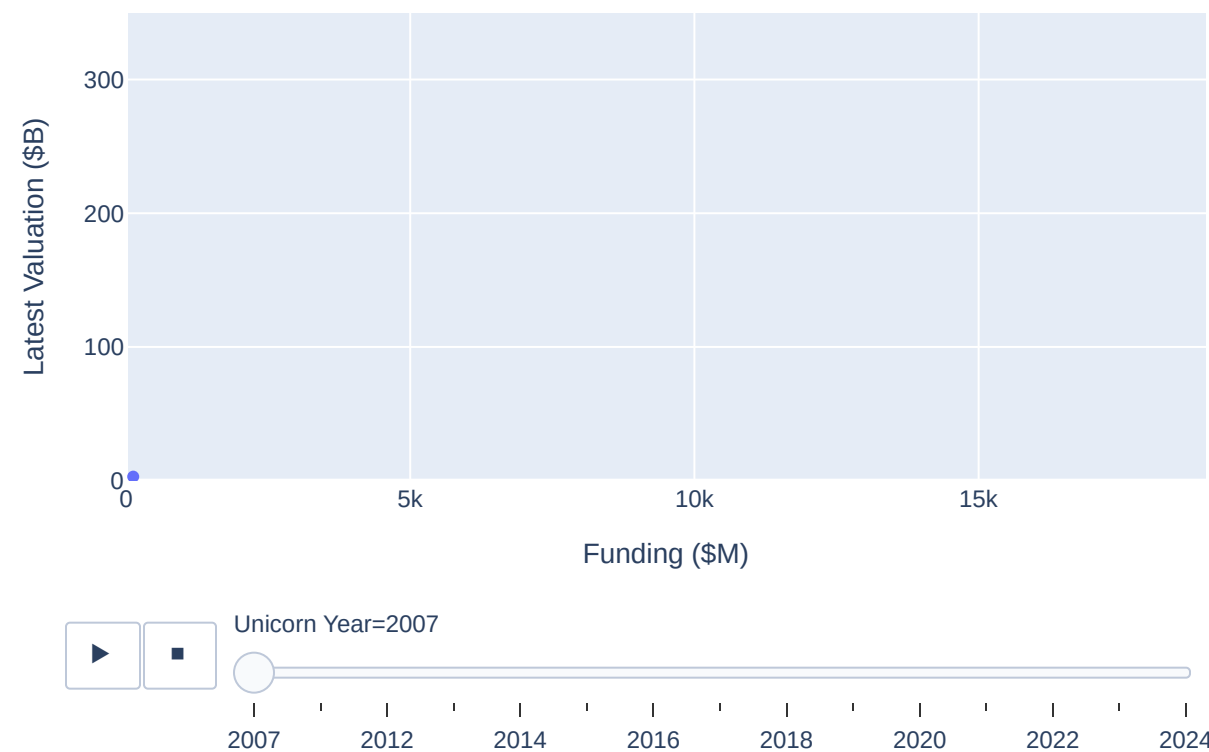


- **Fastest Growth Window: 2–6 Years**
 - Most unicorns arise in this period, especially in Enterprise Tech and Financial Services, indicating scalable models.
- **Enterprise Tech Early Success**
 - High concentration of unicorns in years 2–4, using SaaS and B2B for rapid growth.
- **Industrials and Healthcare Delays**
 - Growth extends beyond 6 years due to regulatory and capital challenges.
- **Long Tail (10+ Years)**
 - Some companies, notably in Healthcare, take over a decade to reach unicorn status, reflecting extended R&D cycles.

Valuations by Year Founded

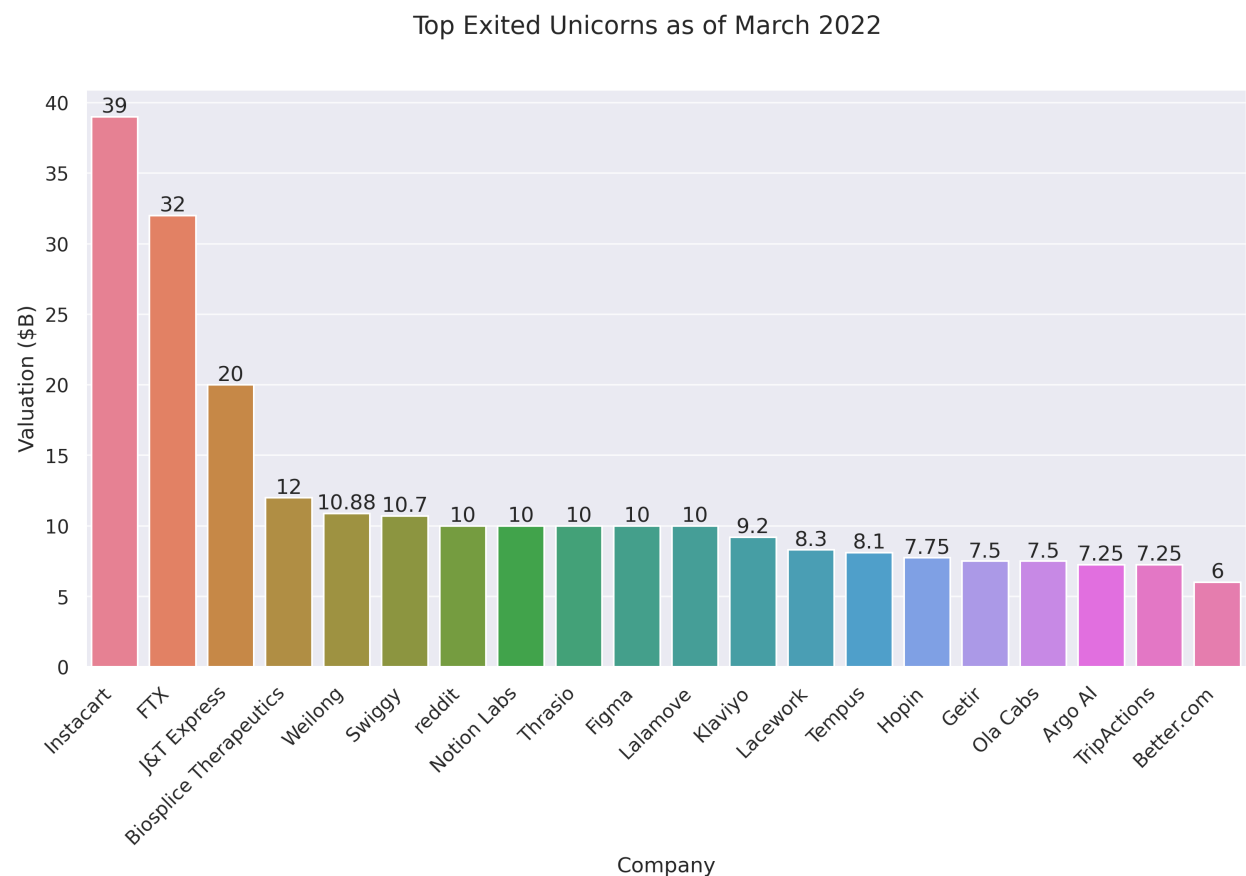


Valuation vs Total Raised over Years



Historical Analysis

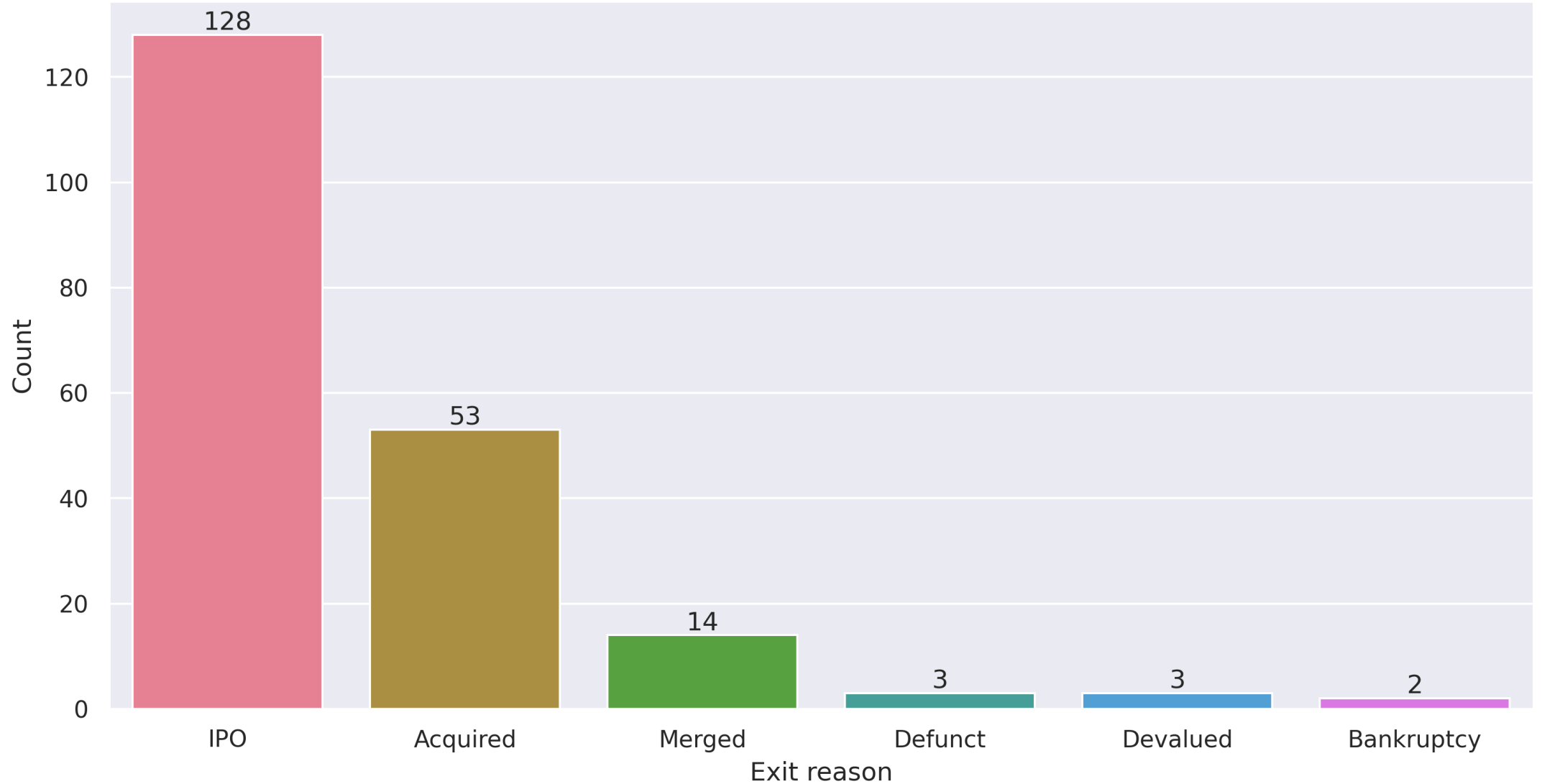
Top Exited Unicorns as of March 2022



- **Leading Exited Unicorn:** Instacart is the top exited unicorn at \$39B, showcasing strong market presence and investor confidence.
- **Notable Competitors:**
 - FTX, despite its bankruptcy, had a \$32B valuation, reflecting rapid growth in cryptocurrency.
 - J&T Express and Biosplice Therapeutics follow with valuations of \$20B and \$12B, indicating robust competition in logistics and healthcare.
- **Diverse Industries:** The chart includes unicorns from logistics (J&T Express) to biotechnology (Biosplice) and food delivery (Swiggy), highlighting broad investment potential.
- **Market Trends:** Companies like Swiggy and NerdWallet reflect ongoing investor interest in tech-driven solutions in food delivery and financial services.

Exit Reasons of Former Unicorns

Exit Reasons of Former Unicorns



Conclusion

This project used Python to explore how big, fast-growing startup companies—called **unicorns** - work and grow around the world. We cleaned data, made charts, and found useful patterns in things like funding, industries, countries, founders, and exit strategies.

- **Tech rules:** Most unicorns are in enterprise tech and finance—things like software, cloud, AI, and fintech.
- **The U.S. is the leader:** America has the most unicorns and the highest total value.
- **AI companies grow fast:** Even with fewer startups, AI companies have huge valuations, showing strong demand.
- **Two types of investors:** Some pick a few winners, others spread their bets across lots of startups.
- **Most unicorns grow quickly:** Many reach a \$1B value in 2 to 6 years, especially in tech.
- **Going public (IPO) is most popular:** Most unicorns exit through IPOs or being acquired—only a few fail.
- **2021 was a record year:** Thanks to digital change and lots of available cash, that year saw the most unicorns created.